Amendments to the Specification

The specification has been amended as follows. Underlines indicate insertions and ~~strikeouts~~ indicate deletions.

[0054] An absolute position of laser exit 60 can be determined independent of the mechanical resolution and thus confirm where laser exit 60 is located after lateral and/or vertical displacement. For indexed lateral and/or vertical displacement, knowledge of absolute source position can provide knowledge of absolute energy position at the target. While the mechanical resolution describes the amount of laser source motion, absolute position describes the ending location after such motion. Absolute position can be determined with feedback from optical encoders for each axis of motion of the virtual source. The encoders can be incorporated into the virtual source and exhibit a resolution less than the mechanical resolution. The encoders can thus provide increased energy position resolution at the target. As an example, the encoders can have a resolution of about 0.1 [[¼m]] μm in the virtual source. Absolute position at the laser source can be enhanced to greater resolution at the target. For a J/H ratio of 0.1, an absolute source position resolution of 0.1 [[¼m]] μm yields an absolution energy position resolution of 0.01 [[¼m]] μm at the target.

[0059] Virtual source 68 rests on a lateral slide 86 in turn resting on a footing 84 and magnet 70 rests on footings 16, allowing precise and accurate reproduction of laser energy 50 position at target position 14. A travel limit 76 is shown as a function of physical constraints for the particular arrangement in Figs. 6-7. The small center bore of magnet 70 and the location of target position 14 within magnet 70 constrain the travel limit as shown since magnet 70 obstructs laser energy 50 at a larger travel limit. Certainly, travel limit 76 can be altered depending on the location of target

position 14 within some device and the physical structure of such device. The upper travel limit 68a and lower travel limit 68b are shown about [[9E]] 9° apart. Notably, laser energy 50 from virtual source 58 continues to pass through lens 12 at upper and lower travel limits 68a,b since virtual source 68 is indexed to vertical index 44 shown in Fig. 7.

[0061] Fig. 7 further shows other components of a laser system such as a true laser source 92 generating laser energy 50 that passes through a separations package 94 isolating desired wavelengths of energy and passes through a dye laser head 96. A prism 98 turns laser energy 50 [[90E]] 90° to enter virtual source 68 at lateral transmission prism 52 shown in Fig. 5. Fig. 7 also shows lateral motion of virtual source 68 along lateral slide 86 within travel limit 76. Notably, lateral source motion is indexed to lateral index 38 shown in Fig. 6. Lateral indexing can be provided by a laser source manipulation mechanism described herein, such as gimbal system 100 in Figs. 3A-3C and laser device 10 shown in Fig. 1. Laser device 10 is expressly described as providing a lateral index and is not shown as providing a vertical index. Preferably, the manipulation mechanism selected for a laser source allows the laser source to be placed in scanning motion. A highly reproducible laser energy scanning device can be particularly useful in a laser desorption spectrometer such as shown in Figs. 6-7.